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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/682,485	10/10/2003	Jang-Keun Oh	116511-00117	1454

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600 NEW HAMPSHIRE AVENUE, N.W.
WASHINGTON, DC 20037

EXAMINER

HOPKINS, ROBERT A

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/682,485

Applicant(s)

OH, JANG-KEUN

Examiner

Robert A. Hopkins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☒ Claim(s) 6-9 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11-24-04, 1-19-05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the dust collecting containers detachably disposed at each cyclone body as claimed in claim 5 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by European patent application(0836827).

European patent application teaches a cyclone type dust collecting apparatus of a vacuum cleaner comprising a lower cyclone body(1) for centrifuging and collecting large foreign substances contained in air introduced from an outside(16), and at least one upper cyclone body(14) disposed at an upper portion of the lower cyclone body, for centrifuging and collecting small foreign substances contained in air discharged from the lower cyclone body in order of particle size.

Claims 1-3,5 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by PCT reference(WO 02/03845)

PCT reference teaches a cyclone type dust collecting apparatus of a vacuum cleaner comprising a lower cyclone body(22) for centrifuging and collecting large foreign substances contained in air introduced from an outside(18), and at least one upper cyclone body(40) disposed at an upper portion of the lower cyclone body, for centrifuging and collecting small foreign substances contained in air discharged from the lower cyclone body in order of particle size. PCT reference further teaches wherein

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the upper and lower cyclone bodies are divided in a casing and respectively provided with an inlet port and an outlet portion for exhausting air in which foreign substances are centrifuged, and a lower outlet port of the lower cyclone body and the upper inlet portion of the upper cyclone body are communicated with each other by an air path(46) including an inner guiding portion(44) formed at an inner portion of the casing and an outer guiding portion(46) formed at an outer portion of the casing. PCT reference further teaches a foreign substance removing means(62) disposed at an upper outlet port of the upper outlet port of the upper cyclone body and the lower outlet port(52) of the lower cyclone body.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1 is rejected under 35 U.S.C. 102(e) as being clearly anticipated by Conrad et al(6782585).

Conrad et al teaches a cyclone type dust collecting apparatus of a vacuum cleaner comprising a lower cyclone body(28) for centrifuging and collecting large foreign substances contained in air introduced from an outside(32), and at least one upper cyclone body(62) disposed at an upper portion of the lower cyclone body, for centrifuging and collecting small foreign substances contained in air discharged from the lower cyclone body in order of particle size.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over PCT reference(WO 02/03845).

PCT reference teaches all of the limitations of claim 4 but is silent as to wherein the foreign substance removing means disposed at the upper outlet port includes a filter for filtering small size foreign substances passing through the grill. Examiner respectfully submits that placing a filter over a perforated grill in a cyclone body to remove particles from an airflow is well known, therefore it would have been obvious to someone of ordinary skill in the art at the time of the invention to provide a filter for filtering small size foreign substances passing through the grill so that small size foreign particles are effectively removed before passing outside the cyclone apparatus.

Allowable Subject Matter

Claims 6-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 6 recites "further comprising a dust collecting container detachably disposed at the lower cyclone body, for collecting the centrifuged foreign substances

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centrifuged in the upper cyclone body and the lower cyclone body. PCT reference, Conrad et al, and European patent application all teach separate dust collecting containers for both the upper and lower cyclone. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide a dust collecting container detachably disposed at the lower cyclone body, for collecting the centrifuged foreign substances centrifuged in the upper cyclone body and the lower cyclone body because none of the references teach such a modification. Claims 7-9 depend on claim 6 and hence would also be allowable upon incorporation of claim 6 into claim 1.

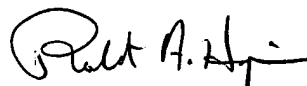
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert A. Hopkins whose telephone number is 571-272-1159. The examiner can normally be reached on Monday-Friday, 7am-4pm, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Rah
April 1, 2005


ROBERT A. HOPKINS
PRIMARY EXAMINER
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